

# OUR NATION'S TRANSPORTATION INFRASTRUCTURE

- Connects
  - cities to suburbs, factories to markets, ports to warehouses, workers to work places, children to schools
- Supports other critical infrastructure, e.g., energy
- Is enormous,
  - 4 million miles of roads
  - 175,000 miles of rail lines
  - 12,000 miles of navigable inland waterways
  - 1.7 million miles of oil and gas pipelines

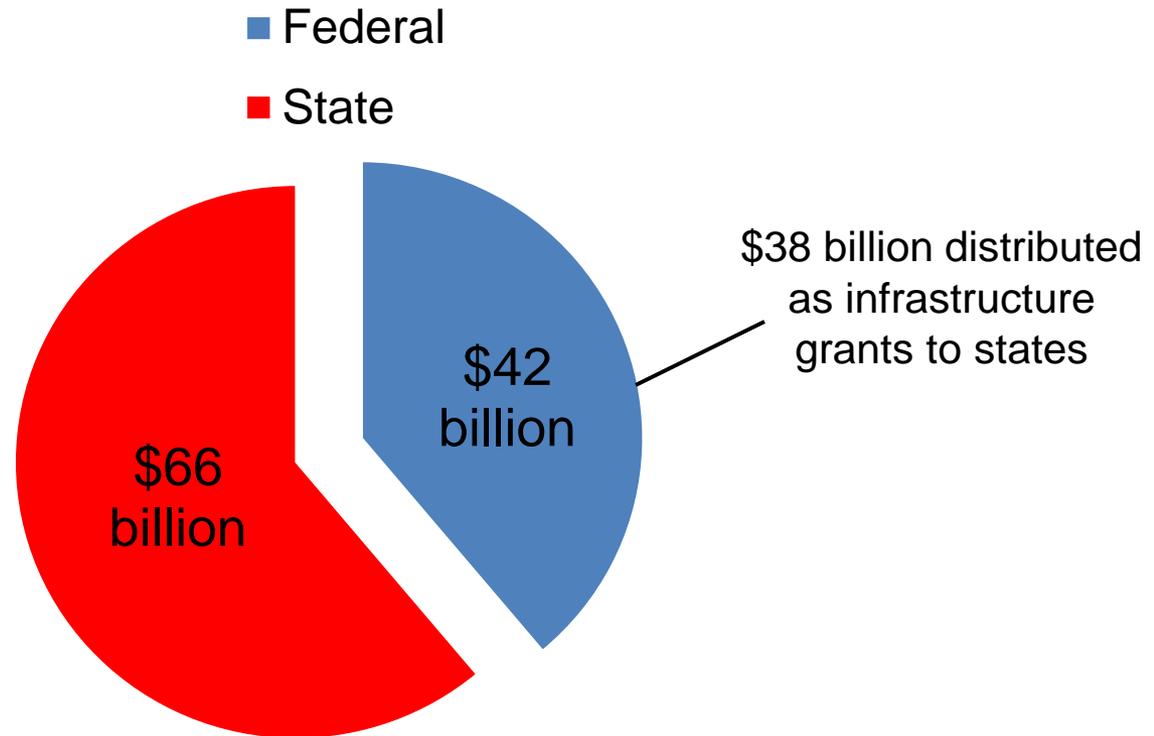


# Transportation infrastructure moves people and goods, and supports nation's economy

- Carries 254 million vehicles
- Provides mobility to 15 million Americans who do not own a vehicle
- Moves 16 billion tons of goods
- Pipelines transport 5.4 billion barrels of petroleum
- Supports 10 million airline flights, carrying 800 million passengers and 44 billion tons of freight among commercial service 600 airports.
- The entire transportation system accounts for nearly 9 percent of U. S. gross domestic product.



# Infrastructure spending by federal and state governments in 2006



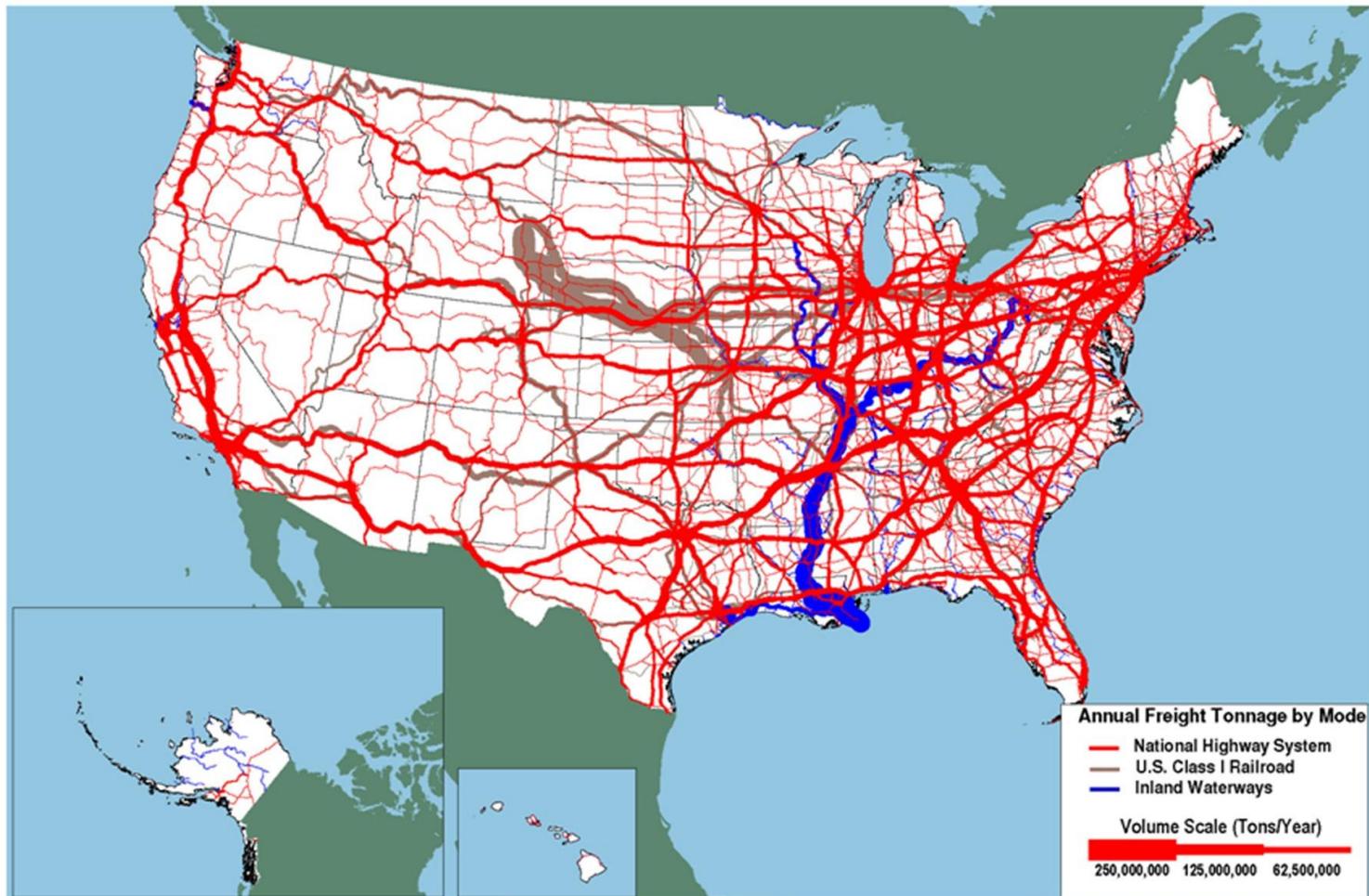
Total = \$108 billion

**Note:** Includes capital expenses for equipment such as rolling stock (subway cars and buses for example) or other transportation equipment (such as a state DOT's operation center's computers).

**Source:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Government Transportation Financial Statistics 2007



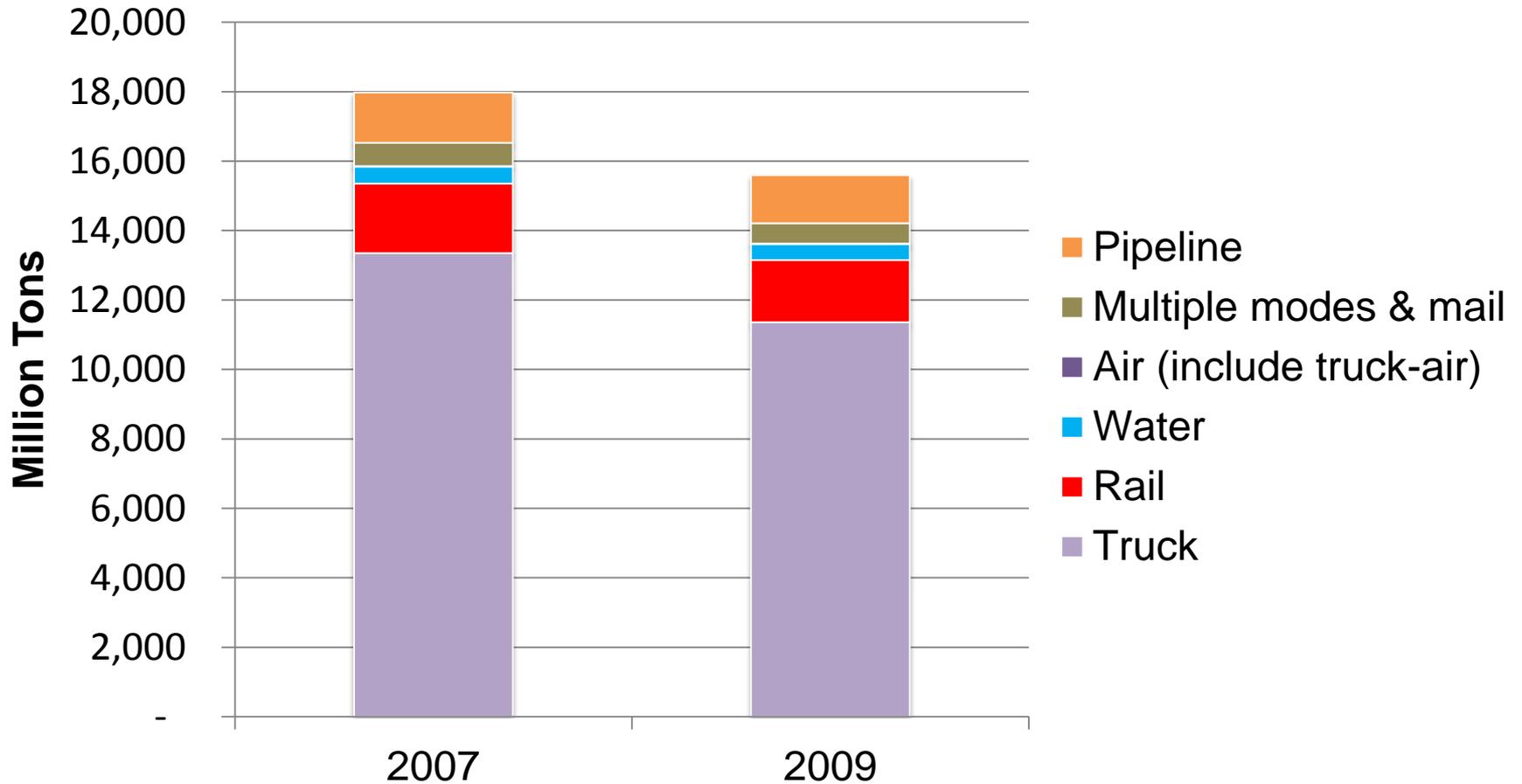
# Amount of freight moved on highways, railroads, and inland waterways: 2007



Sources: Highways: U.S. Department of Transportation, Federal Highway Administration, Freight Analysis Framework, Version 3.1, 2010. Rail: Based on Surface Transportation Board, Annual Carload Waybill Sample and rail freight flow assignments done by Oak Ridge National Laboratory. Inland Waterways: U.S. Army Corps of Engineers (USACE), Annual Vessel Operating Activity and Lock Performance Monitoring System data, as processed for USACE by the Tennessee Valley Authority; and USACE, Institute for Water Resources, Waterborne Foreign Trade Data, Water flow assignments done by Oak Ridge National Laboratory.



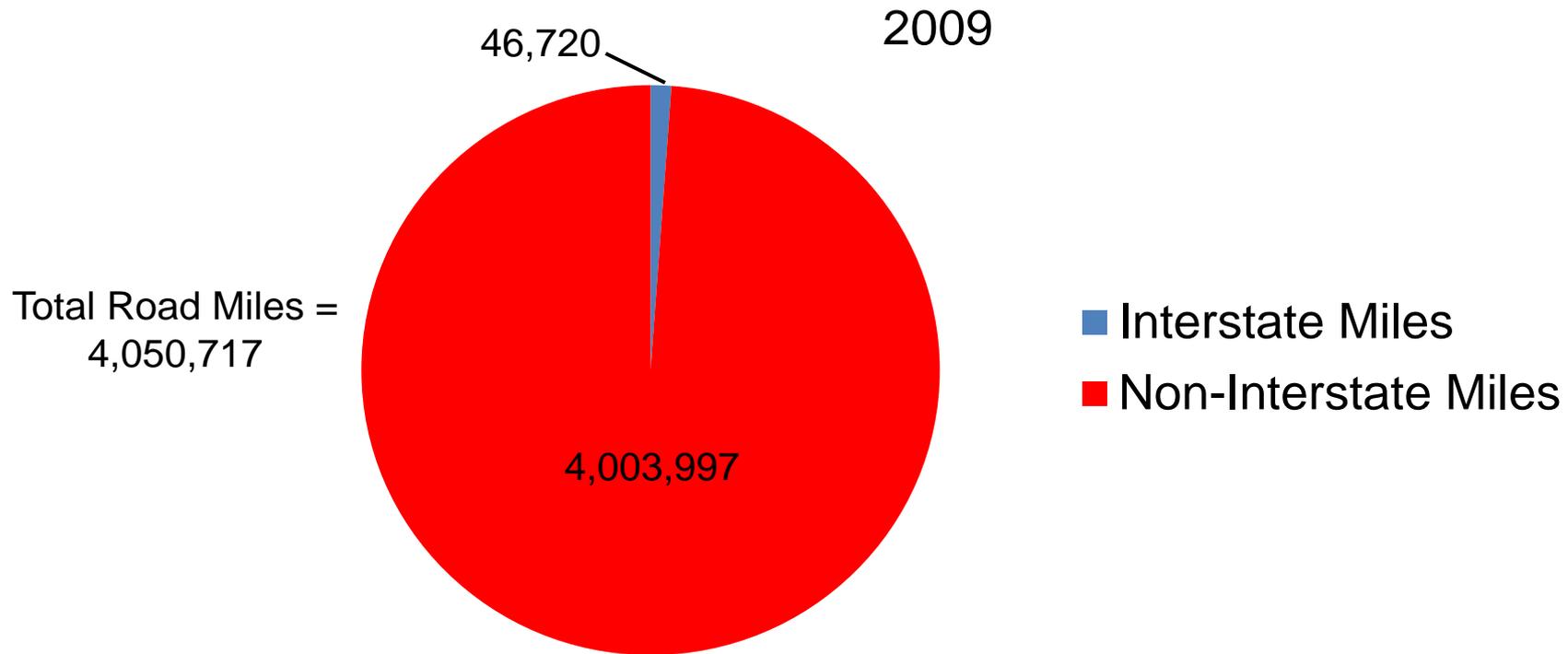
# Measured by weight, freight movements on the U.S. transportation system decreased by 13% from 2007 to 2009



**Source:** Freight Analysis Framework, Federal Highway Administration, U.S. Department of Transportation.



# Interstate Highway Miles are 1 percent of the total road miles but carry 24 percent of the total travel

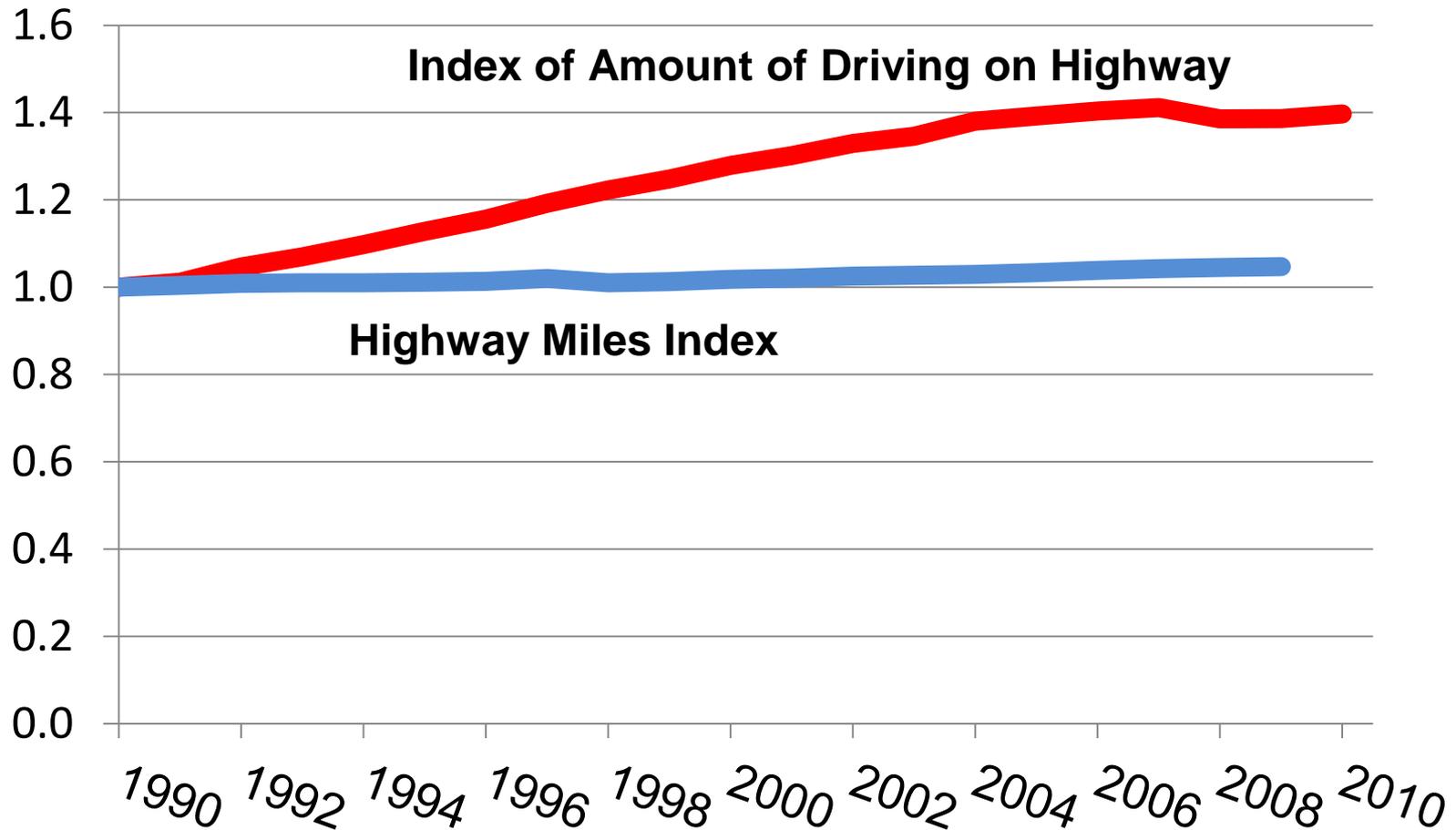


**Source:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, National Transportation Statistics



# Demand on the system continues to increase

Amount of driving on highway vs. highway miles, 1990-2010

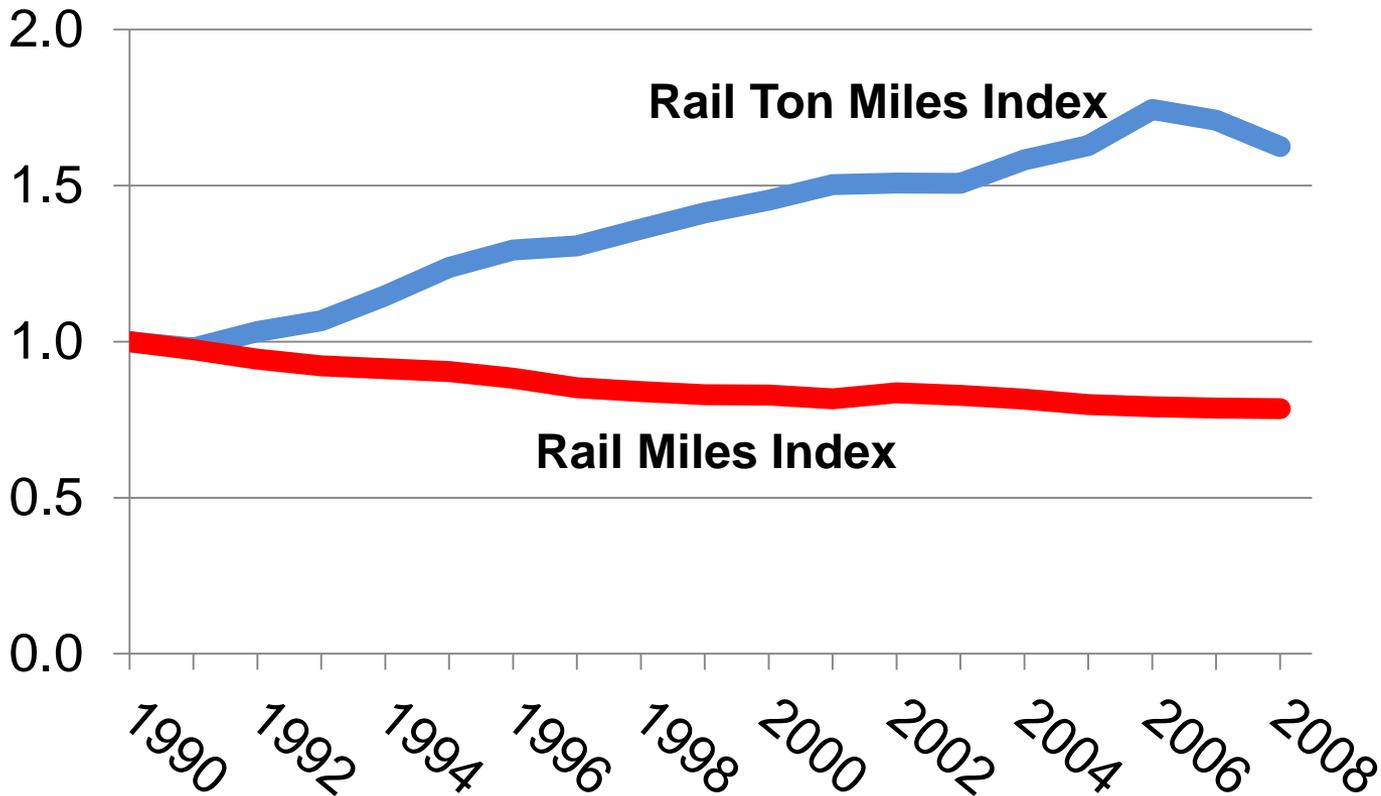


Source: Federal Highway Administration, U.S. Department of Transportation.



# Similar trends are observed in freight rail lines

Rail ton miles vs. rail miles, 1990-2008

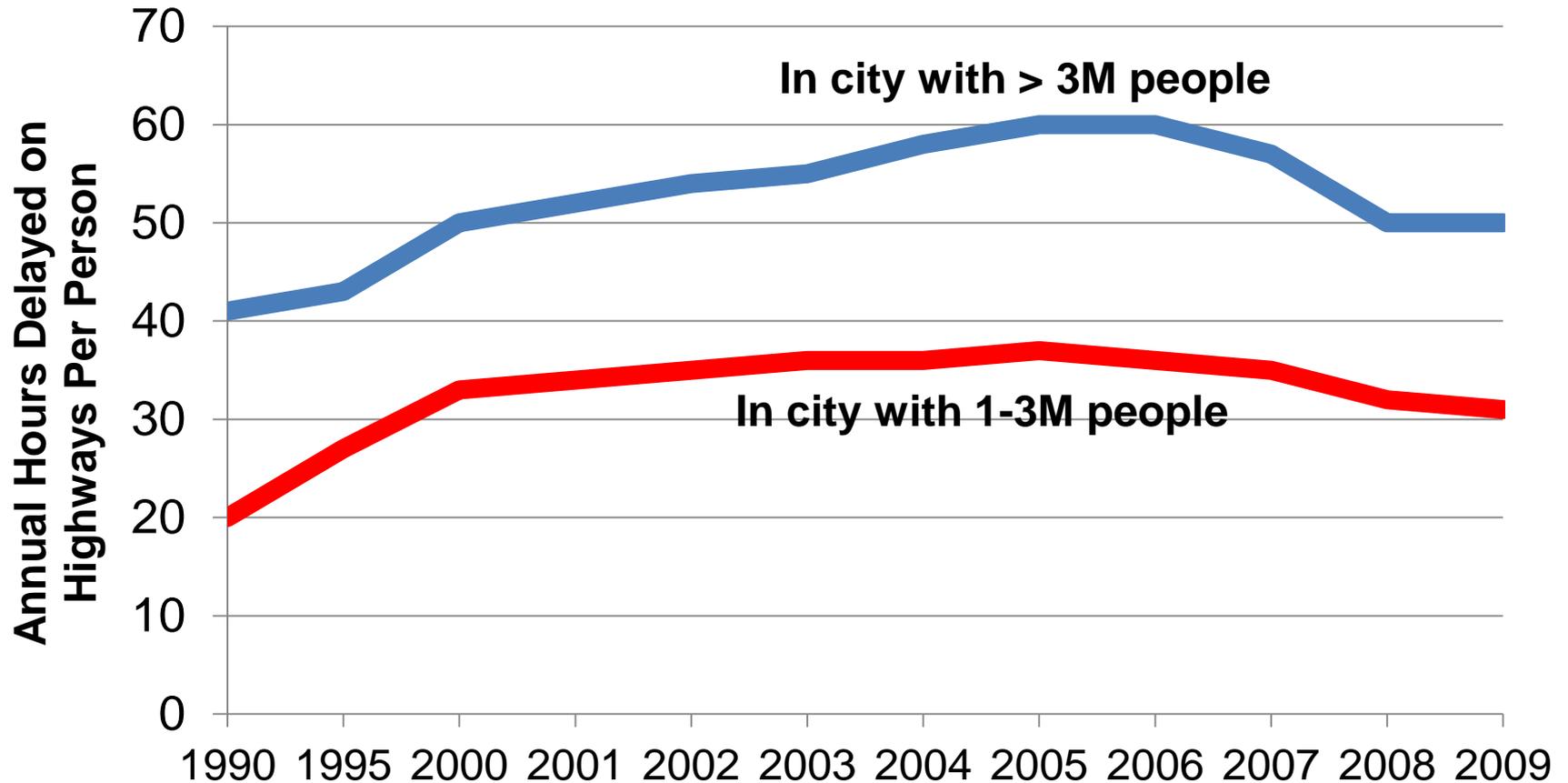


**Ton Mile:** a unit of measurement in freight transportation equal to the movement of one ton of goods by one mile

**Source:** U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, November 2011



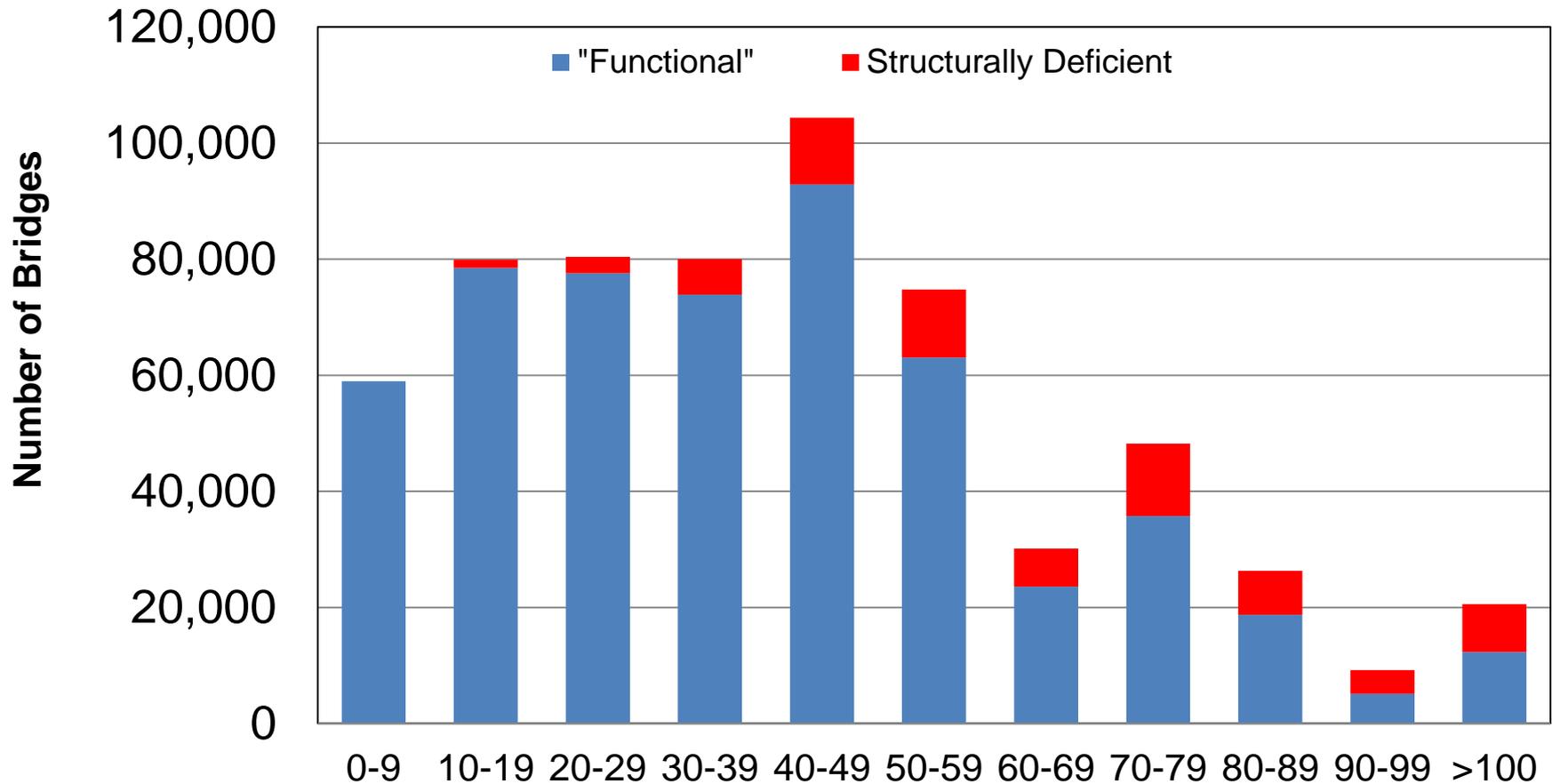
# Higher demand and level roadway capacity contribute to traffic congestion



**Source:** Texas Transportation Institute, *Congestion Data for Your City*, Excel spreadsheet of the base statistics for the 101 urban areas and population group summary statistics (College Station, TX: 2011), available at <http://mobility.tamu.edu> as of Jan. 20, 2011.



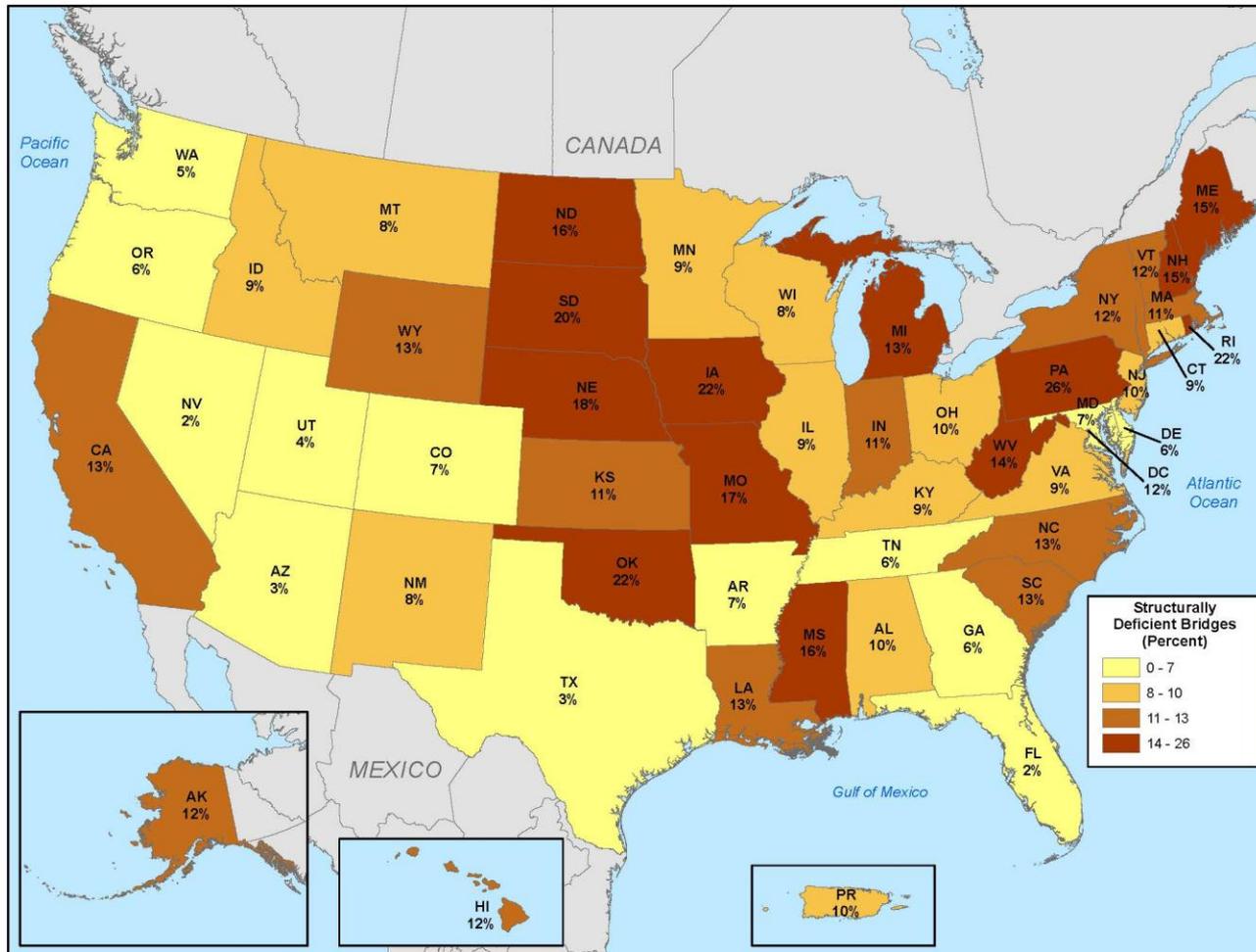
# Structurally Deficient and Total Bridges by Age



U.S. Department of Transportation, Federal Highway Administration, *National Bridge Inventory*, available at <http://www.fhwa.dot.gov/bridge/nbi.htm> as of November 2011.



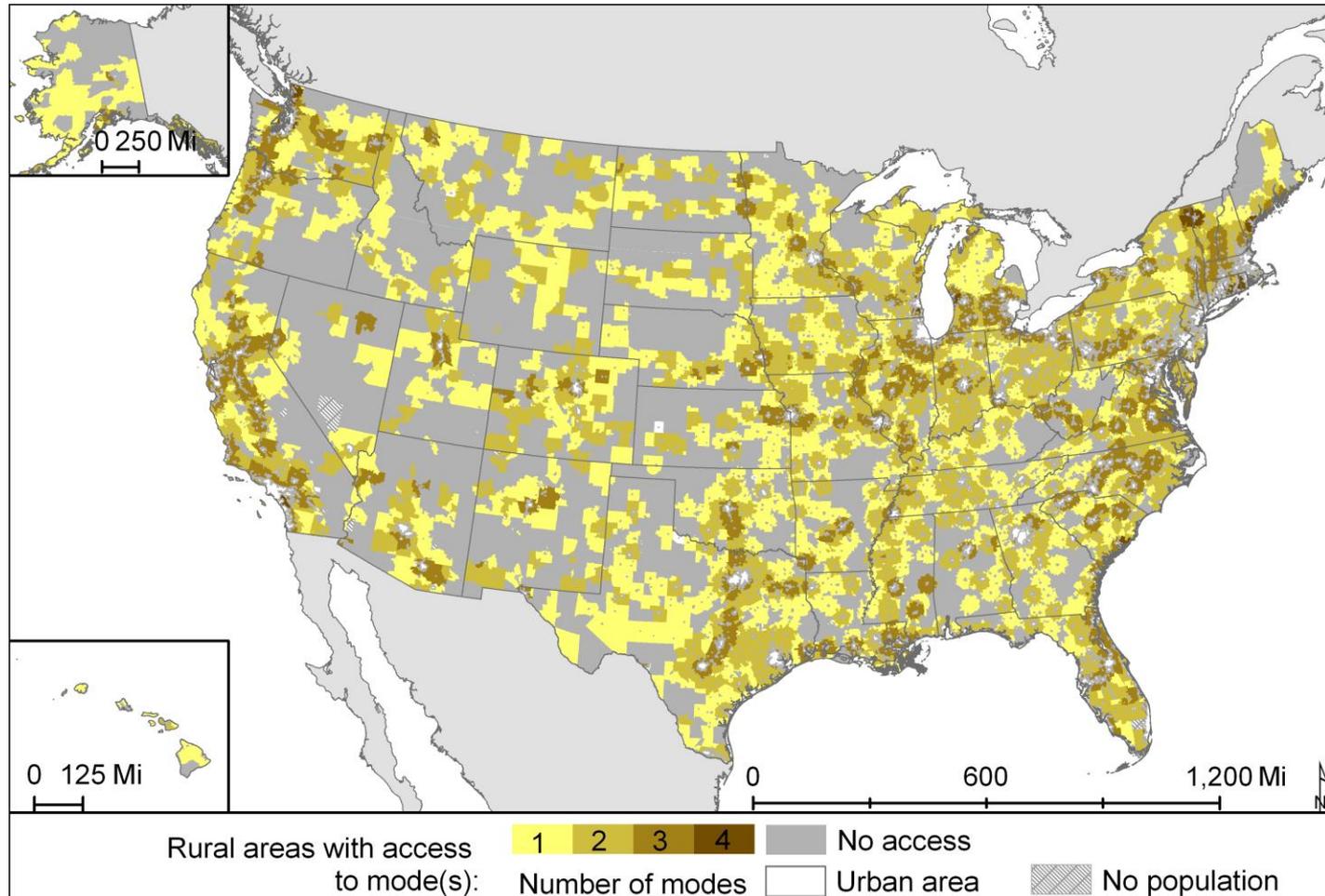
# Percentage deficient bridges by state



**Note:** Structural deficiencies are characterized by deteriorated conditions of significant bridge elements and reduced load-carrying capacity. A "structurally deficient" designation does not imply that a bridge is unsafe, but such bridges typically require significant maintenance and repair to remain in service, and would eventually require major rehabilitation or replacement to address the underlying deficiency.



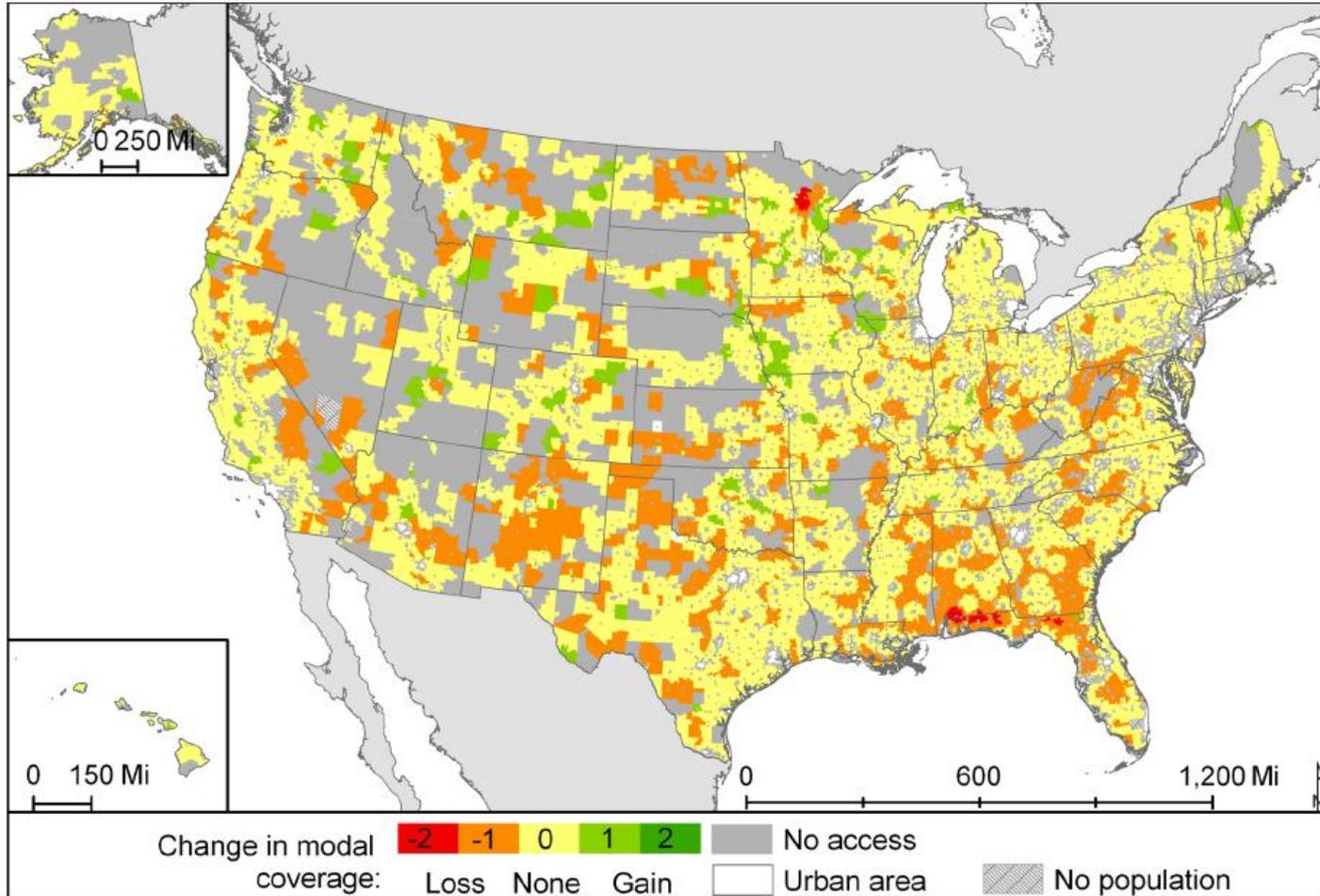
# In 2010, one in every nine rural Americans had no access to intercity transportation services



**Source:** Bureau of Transportation Statistics, U.S. Department of Transportation.

Modes: Air, intercity bus, intercity ferry and intercity rail.

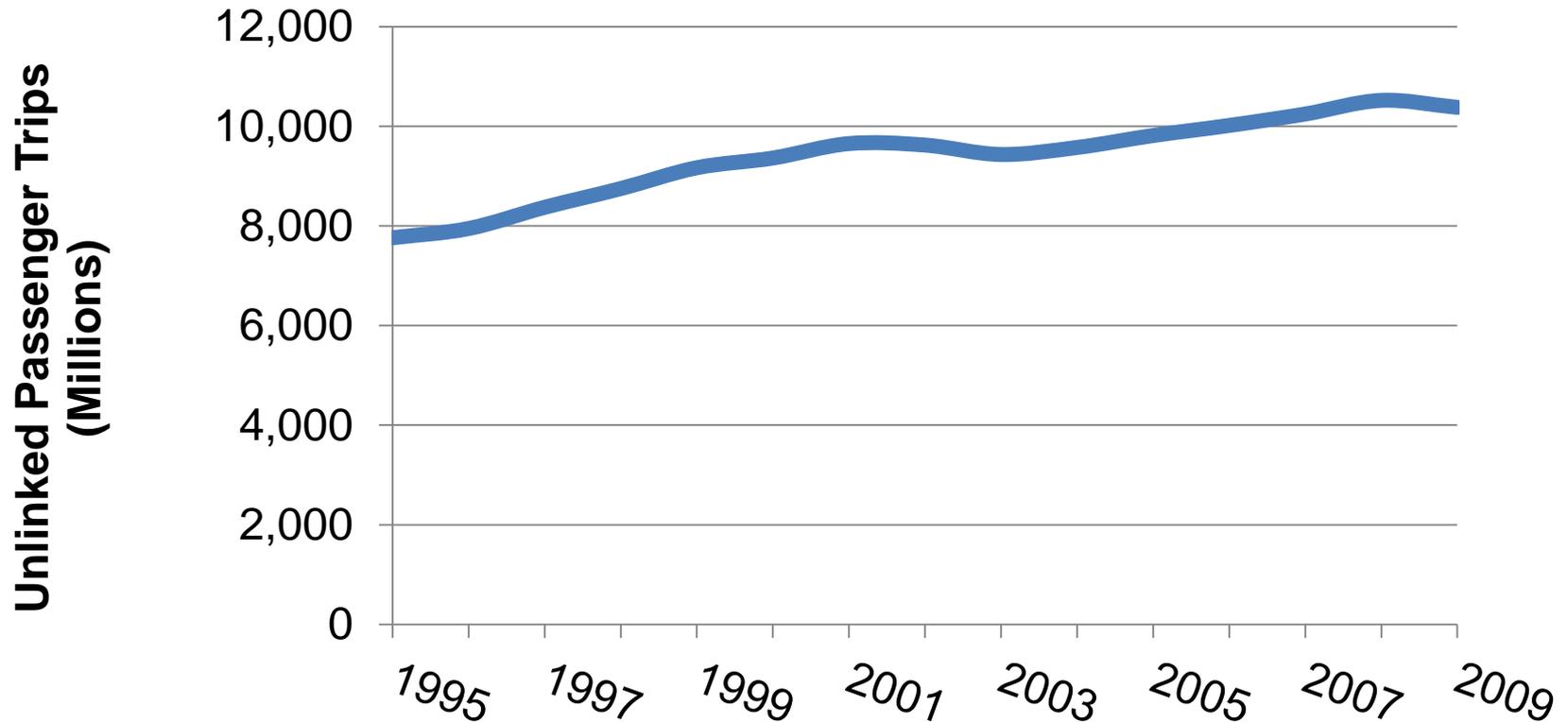
# Between 2005 and 2010, 3.5 million rural residents lost access to scheduled intercity transportation



**Change in the Number of Intercity Transportation Modes Serving a Rural Area, 2005–2010**

**Source:** Bureau of Transportation Statistics, U.S. Department of Transportation.

# Transit ridership increased by 33% from 1995 to 2009—to 10.4 billion trips a year



Source: 2011 Public Transportation Fact Book, American Public Transportation Association.



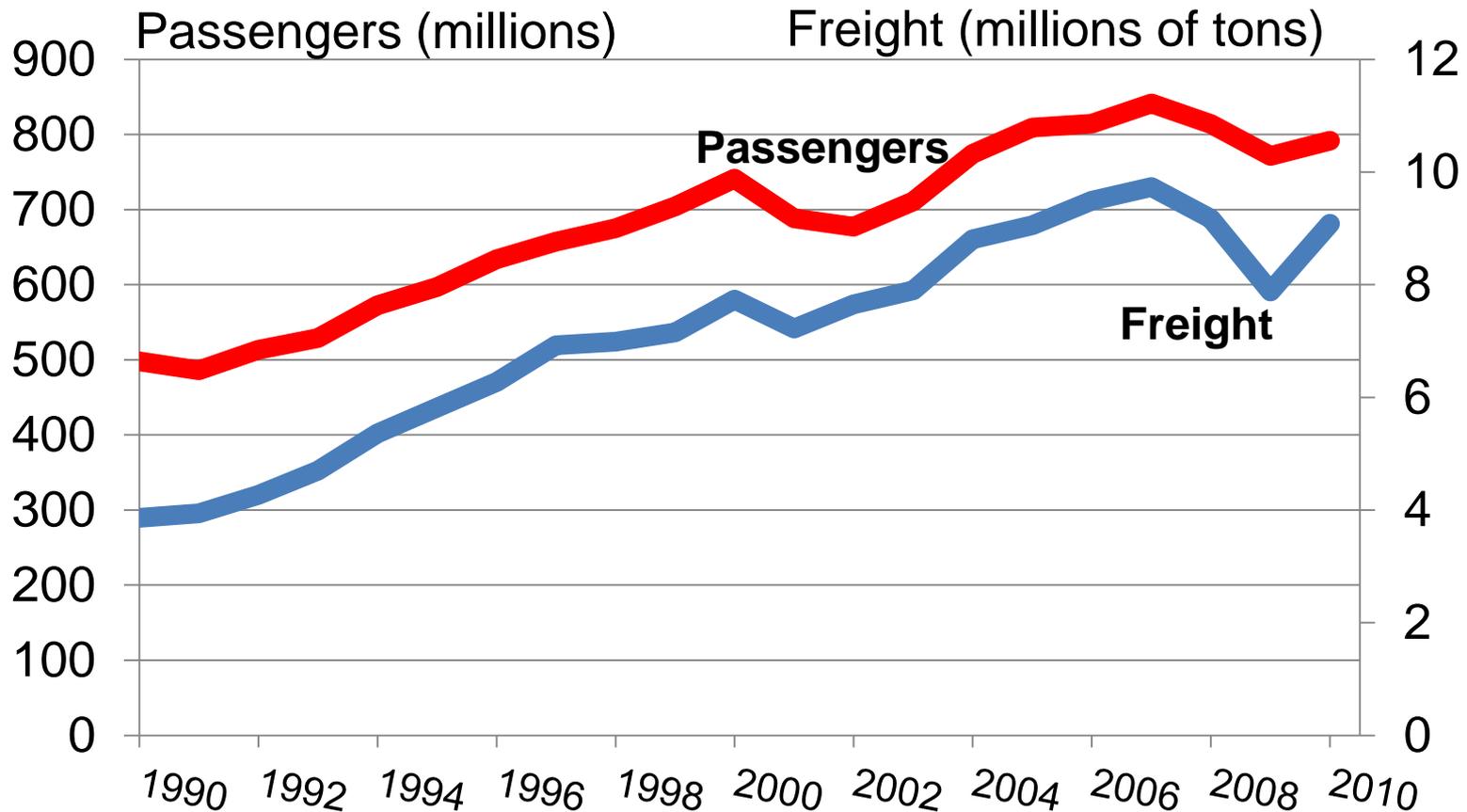
## Transit infrastructure condition

- On average, transit rail locomotives, coaches and cars are 18 years old
- Transit buses are 6 years old or older
- One in every 4 transit stations is in excellent or good condition
- The majority of the transit underground tunnels are in excellent or good condition

**Source:** U.S. Department of Transportation, Federal Transit Administration, Status of the Nation's Highways, Bridges and Transit: Conditions and Performance.



# Air passenger travel grew 60% and air freight grew 135% from 1990 to 2010



Source: Bureau of Transportation Statistics, T-100 Market (All Carriers)



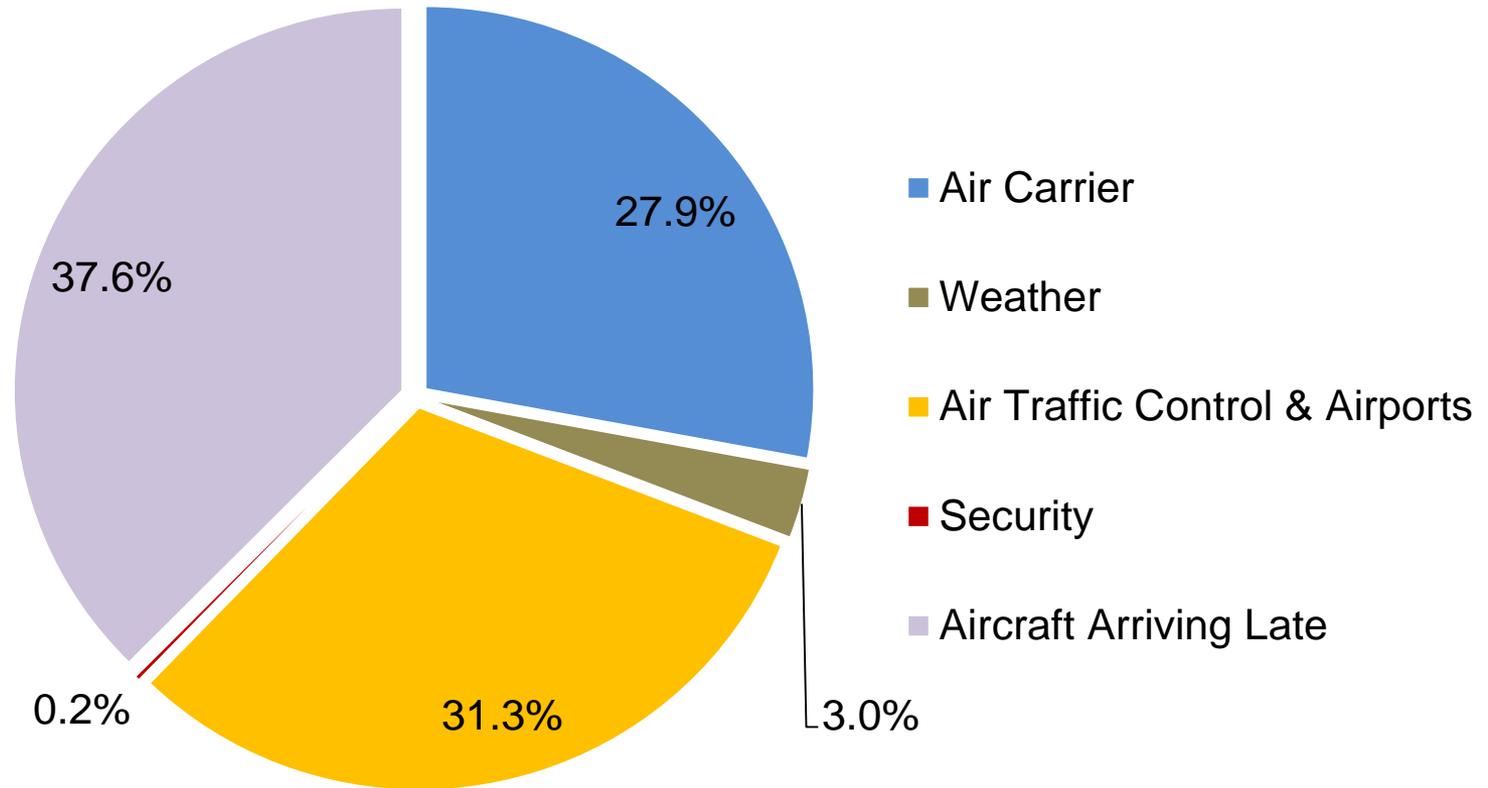
## In 2010, the top 10 airports accounted for almost one-third of all air passenger travel

1990			2010		
Rank		Passengers (millions)	Rank		Passengers (millions)
1	Chicago O'Hare	26.7	1	Atlanta	43.0
2	Dallas/Fort Worth	23.1	2	Chicago O'Hare	32.2
3	Atlanta	23.0	3	Los Angeles	28.9
4	Los Angeles	21.5	4	Dallas/Fort Worth	27.0
5	San Francisco	14.6	5	Denver	25.2
6	New York JFK	13.8	6	New York JFK	22.9
7	Denver	12.0	7	Houston Bush	19.5
8	Miami	11.7	8	San Francisco	19.3
9	New York LaGuardia	11.1	9	Las Vegas	18.9
10	Phoenix	10.7	10	Phoenix	18.9

**Source:** Bureau of Transportation Statistics, T-100 Market (All Carriers)



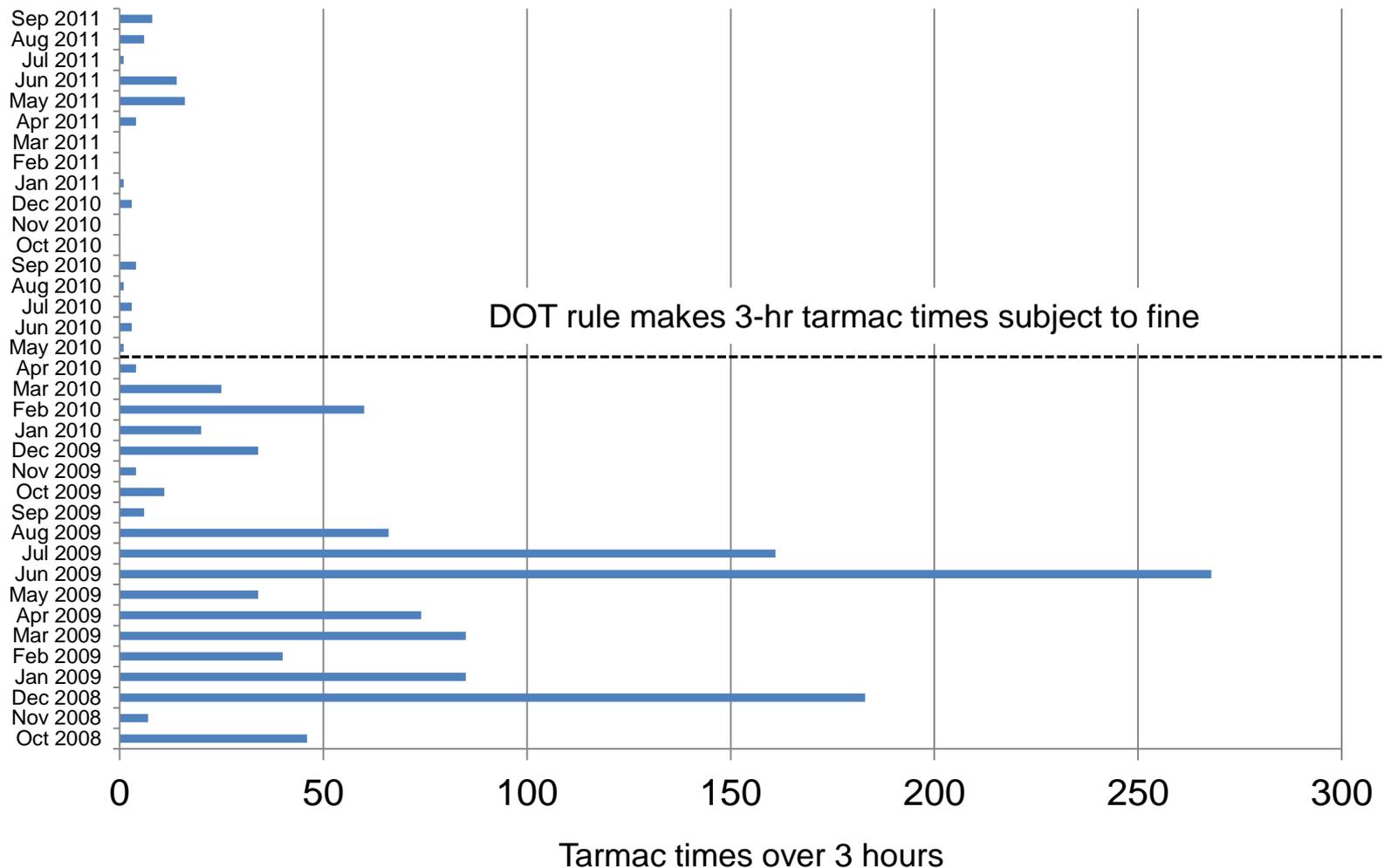
# Causes of flight delays, Jan-Sept 2011



**Source:** Bureau of Transportation Statistics, U. S. Department of Transportation



# The majority of the tarmac delays in May 2011 were due to weather issues



Source: Bureau of Transportation Statistics, U. S. Department of Transportation

# Percent of on-time arrivals at major U.S. airports

## Arriving at the gate within 15 minutes of scheduled arrival time

### Top Five

1990		%	2010		%
1	Washington Dulles	84.3	1	<b>Seattle</b>	85.1
2	Charlotte	83.5	2	Phoenix	85.1
3	Las Vegas	82.6	3	Portland, OR	83.7
4	Salt Lake City	82.5	4	Denver	83.6
5	Washington Reagan	82.1	5	Charlotte	82.9

### Bottom Five

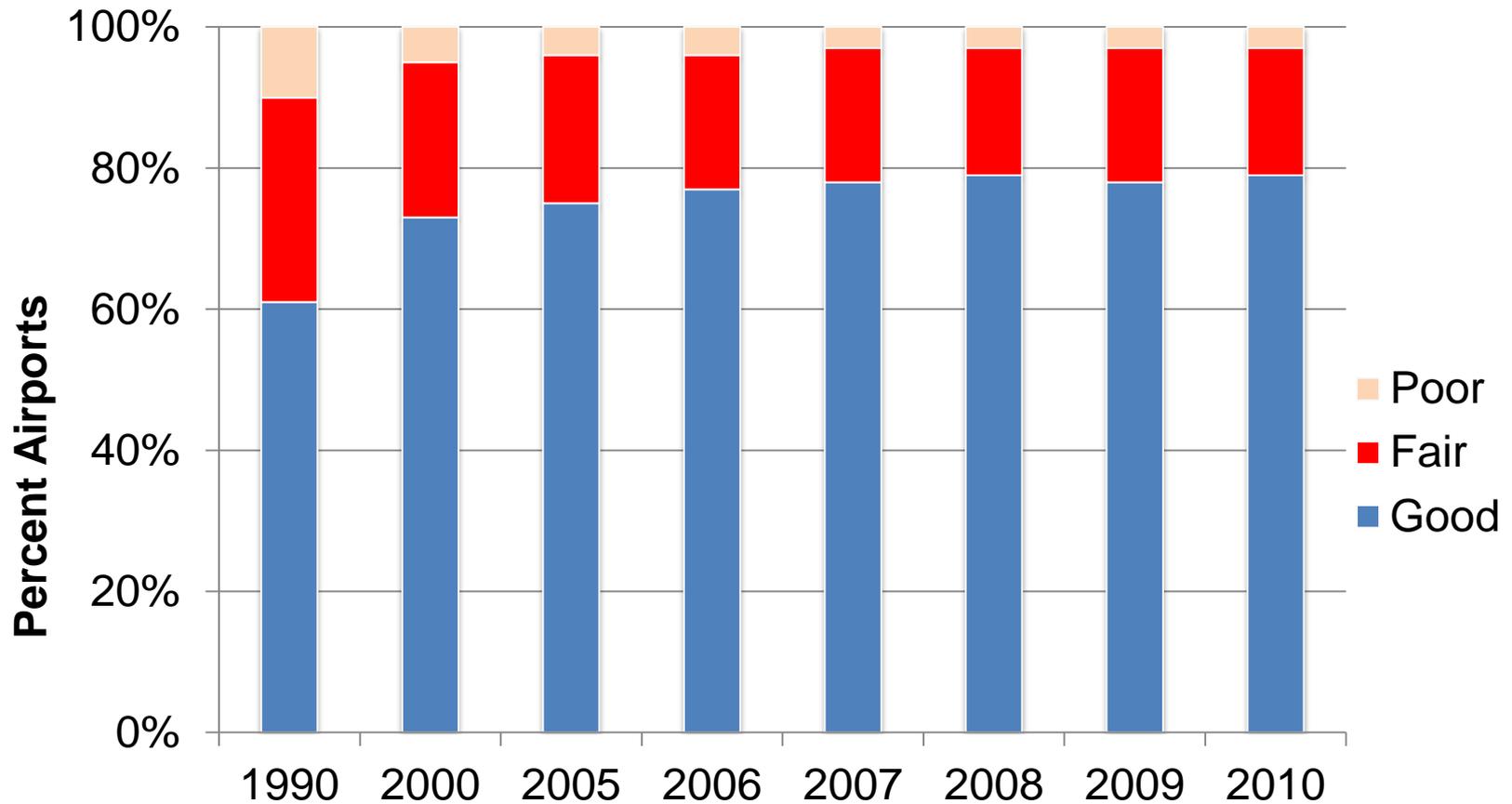
1990		%	2010		%
5	New York La Guardia	74.2	5	Boston	76.3
4	Philadelphia	73.8	4	New York JFK	74.7
3	New York JFK	73.6	3	New York La Guardia	73.7
2	Newark	72.3	2	Newark	71.9
1	<b>Seattle</b>	72.2	1	San Francisco	71.3

**Note:** Major airports have at least 1 percent of the total of scheduled service domestic passenger enplanements for all airports in the U.S.

**Source:** Bureau of Transportation Statistics, Airline On-Time Data



# Runway pavement conditions improved over time



**Source:** U.S. Department of Transportation, Federal Aviation Administration, Office of Airport Planning and Programming



## 86 percent of the total import and export container traffic moves through the top 10 ports

	<u>Port Name</u>	<u>2010 TEUs</u>	<u>Percentage of Total</u>
1	Los Angeles, CA	5,559,046	20%
2	Long Beach, CA	4,433,994	16%
3	New York, NY	4,043,060	15%
4	Savannah, GA	2,170,339	8%
5	Oakland, CA	1,505,446	5%
6	Norfolk, VA	1,435,098	5%
7	Seattle, WA	1,417,070	5%
8	Houston, TX	1,348,072	5%
9	Charleston, SC	1,076,595	4%
10	Tacoma, WA	835,556	3%
<b>Total for Top 10 Sea Ports</b>		<b>23,824,276</b>	<b>Top 10 Total: 86%</b>
<b>Total for All U.S. Sea Ports</b>		<b>27,877,546</b>	

**Source:** U.S. Department of Transportation, Maritime Administration, Port Import Export Reporting Service (PIERS); data collected from Vessel as of November 8, 2011.

Units: The statistics are shown in TEUs. A TEU is a nominal unit of measure equivalent to a 20' x 8' x 8' shipping container.



# Percentage of passenger transportation terminals with connectivity to other modes

